DEPARTMENT of ENVIRONMENTAL SERVICES Water Supply & Pollution Control Division - Biology Bureau

LAKE TROPHIC DATA

MORPHOMETRIC:

Lake: RAND POND	Lake Area (ha):	15.66
Town: GOSHEN	Maximum depth (m):	8.2
County: Sullivan	Mean depth (m):	3.4
River Basin: Connecticut	Volume (m^3) : 53	34000
Latitude: 43°19'03" N	Relative depth:	1.8
Longitude: 72°06'31" W	Shore configuration:	1.28
Elevation (ft): 1257	Areal water load (m/yr):	4.90
Shore length (m): 1800	Flushing rate (yr ⁻¹):	1.40
Watershed area (ha): 132.1	P retention coeff.:	0.66
<pre>% watershed ponded: 0.0</pre>	Lake type: natural w	v/dam

BIOLOGICAL:	9 February 1995	23 August 1994
DOM. PHYTOPLANKTON (% TOTAL) #	ASTERIONELLA 75%	TABELLARIA 45%
#	DINOBRYON 25%	MELOSIRA 15%
#		GLOEOCYSTIS 15%
PHYTOPLANKTON ABUNDANCE (units/mL		
CHLOROPHYLL-A (µg/L)		9.50
DOM. ZOOPLANKTON (% TOTAL) #	LRG ROUND CILIATE 63%	KELLICOTTIA 47%
#	LONG OVAL CILIATE 35%	NAUPLIUS LARVA 19%
#		
ROTIFERS/LITER	1	84
MICROCRUSTACEA/LITER	3	45
ZOOPLANKTON ABUNDANCE (#/L)	52	129
VASCULAR PLANT ABUNDANCE		Sparse
SECCHI DISK TRANSPARENCY (m)		3.3
BOTTOM DISSOLVED OXYGEN (mg/L)	11.9	0.0
BACTERIA (E. coli, #/100 ml) #		4
#		14
#		

SUMMER THERMAL STRATIFICATION:

not stratified

Depth of thermocline (m): None Hypolimnion volume (m^3) : None Anoxic volume (m^3) : 2

: 2500

CHEMICAL:			RAND PONI GOSHEN) ,	
	9 Febru	ary 1995	23 August 1994		
DEPTH (m)	2.0	4.0	2.0	5.0	7.0
pH (units)	6.8	6.5	7.0	6.9	6.8
A.N.C. (Alkalinity)	6.8	6.8	7.2	6.9	8.1
NITRATE NITROGEN	< 0.10	< 0.10	< 0.05		< 0.05
TOTAL KJELDAHL NITROGEN	0.28	0.39	0.44	0.30	0.26
TOTAL PHOSPHORUS	0.008	0.009	0.003	0.007	0.006
CONDUCTIVITY (µmhos/cm)	72.3	73.0	74.5	75.3	77.0
APPARENT COLOR (cpu)	13	14	17	18	23
MAGNESIUM			0.73		
CALCIUM			4.2		
SODIUM			8.0		
POTASSIUM			0.72		
CHLORIDE	14	14	14		14
SULFATE	4	4	4		4
TN : TP	35	43	147		43
CALCITE SATURATION INDEX			2.8		

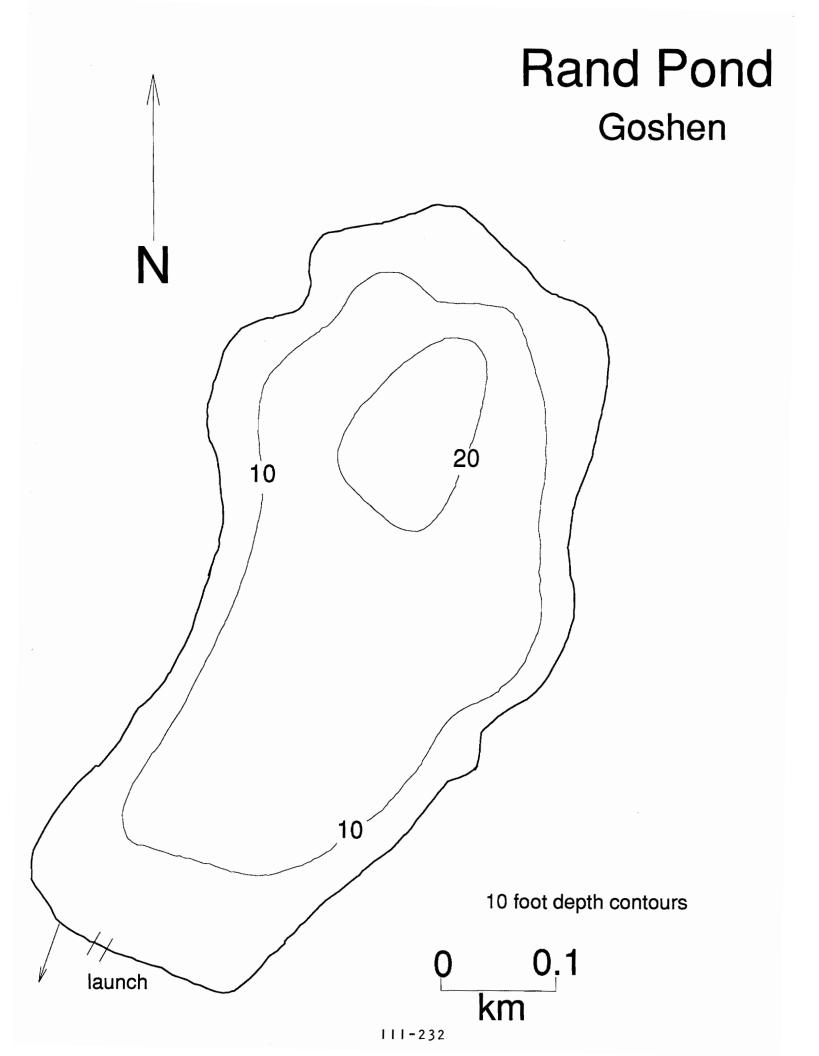
All results in mg/L unless indicated otherwise

TROPHIC CLASSIFICATION: 1994

D.O.	S.D.	PLANT	CHL	TOTAL	CLASS
**	2	0	2	4	Oligo.

COMMENTS:

- 1. This pond was previously surveyed and classified in 1979. There was no change in the assigned trophic classification, but there was a four-fold increase in the phytoplankton population and a 4 foot decrease in water clarity in 1994.
- Rand Pond also participates in DES' Volunteer Lake Assessment Program and has eight years of data (since 1987). That data shows relatively stable trends in phytoplankton (chlorophyll) and water clarity; the differences between the 1979 and 1994 survey data falls within the normal annual fluctuations. This points out the need for annual data collection to evaluate trends.
- 3. Good boat launch site; gravel into shallow water; no restrictions.
- 4. Shoreline densely packed with cottages -- many for sale. A trailer campground was at the southern end of the pond.



FIELD DATA SHEET

LAKE: RAND POND TOWN: GOSHEN

DATE: 08/23/94 WEATHER: CLEAR, COOL & WINDY

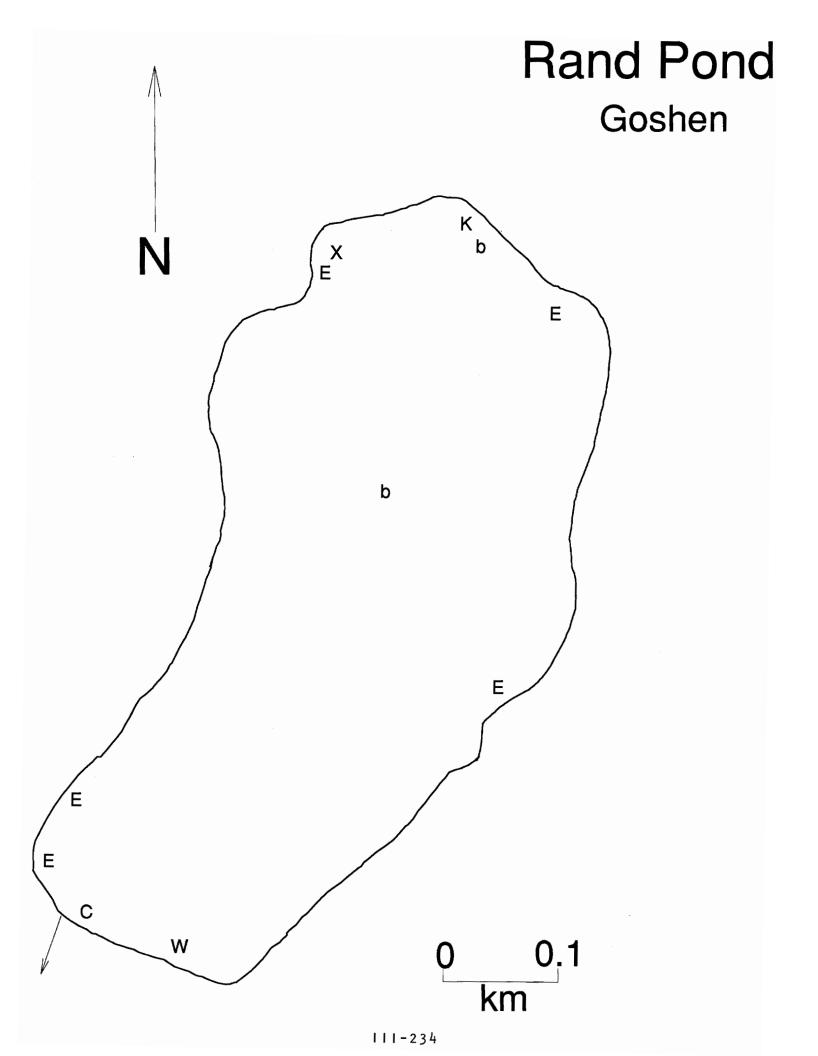
EPTH (M)	TEMP (°C)	*DISSOLVED OXYGEN	OXYGEN SATURATION
0.1	19.7	8.3	89 %
1.0	19.7	8.2	88 %
2.0	19.5	8.3	89 %
 3.0	19.4	8.3	89 %
 4.0	19.3	8.3	89 %
5.0	19.2	8.3	89 %
6.0	19.1	8.1	88 %
7.0	16.6	0.0	0 %
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SECCHI DISK (m): 3.3 COMMENTS:

BOTTOM DEPTH (m): 7.4

TIME: 1145

*Dissolved oxygen values are in mg/L



AQUATIC PLANT SURVEY

LAK	E: RAND POND	TOWN: GOSHEN	DATE: 08/23/94		
Key	PLANT	PLANT NAME			
Key	GENERIC	COMMON	ABUNDANCE		
W	Potamogeton spp.	Thin-leaved pondweed	Sparse		
E	Eriocaulon septangulare	Pipewort	Sparse		
b	Scirpus	Bulrush	Sparse		
K		Unknown plant	Sparse		
Х		Bottom growth	Sparse		
С	Cyperaceae	non-flowering sedge	Sparse		
OVERALL ABUNDANCE: Sparse					

GENERAL OBSERVATIONS:

- 1. Unknown plant may be Pontederia cordata forma taenia, a sterile submersed form of pickerelweed.
- 2. Many ducks and some seagulls were on the pond; some foam was present along the shore; the water was somewhat murky.